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RAILWAY EFFICIENCY IN ITS RELATION TO AN ADVANCE IN FREIGHT RATES

During the last four years there has been much discussion of whether the railways of the United States are efficiently operated. It is singular that this should have been so. Until lately it was a generally accepted view that they were operated with great skill and efficiency; and the assumption that this was the case was made the ground for many demands on them. Shippers called attention to the fact that they had strengthened their tracks, and reduced the curvature, had bought locomotives of greater tractive power and freight cars of larger capacity, and by these and other means had increased their carloads and trainloads. This increased efficiency, it was argued, had caused important economies, and by these economies shippers had a right to benefit through reductions in freight rates. Similar arguments were made for legislation reducing passenger fares. Likewise, railway labor used the improvements which it was said had been made in track, equipment, and operating methods, the resulting economies and the consequent larger profits of the companies, as reasons for advances in wages.

The railway managers "owned the soft impeachment" that they were doing their work well, but objected to its being urged as a reason for reducing railway rates and earnings. But, beginning in 1907, extensive reductions were made by government regulation in both freight and passenger rates; and at the same time railway labor commenced a series of movements which resulted in heavy advances in wages. The railway managers then began to try, not only to prevent further reductions, but to secure general increases, in rates. They first prepared tariffs providing for such advances in 1910.

It was at this time that the charge began to be made that the troubles of the railways were chiefly due to the fact that they were inefficiently managed. It is worth while to recall how this charge originated, and the kind of evidence that has been introduced in support of it. Soon after the railways filed their tariffs in 1910 a

mass meeting of shippers was held in Chicago at which Mr. Harrington Emerson, who had gained some reputation as an efficiency engineer, arose and declared that by adopting more efficient methods the railways could save \$300,000,000 a year. This was the first time that the wholesale allegation of inefficiency was made. Perhaps that incident suggested to Mr. Louis D. Brandeis, who later appeared as an attorney for the shippers, his line of attack. At any rate, he called Mr. Emerson as a witness, who then made the famous assertion that by the application of the principles of "scientific management" the railways could save \$1,000,000 a day.

Doubtless many think substantial evidence was presented in support of this statement. This was not done. The Interstate Commerce Commission held in the opinion rendered by it in the eastern rate advance case in 1911: "Upon the record we can hardly find that these methods (of 'scientific management') could be introduced into railroad operations to any considerable extent, much less can we determine the definite amount of saving that could be made."¹ Yet in a single day the attitude of press and public was reversed. Before, it was argued that the railways could stand reductions in their rates because of their increased and increasing efficiency. Now, it was just as generally argued that their rates should not be advanced because they were inefficient!

In the original rate advance cases, which were decided in 1911, the Interstate Commerce Commission held that the roads had not shown that they needed higher rates or larger net earnings. Although the discussion of efficiency may not have influenced the Commission's decisions, it had an effect on the managements of the railways. Probably never were more energetic efforts made to economize than under the spur of the popular criticism started by Mr. Emerson and Mr. Brandeis. In some cases economy was carried to such extremes that temporary savings were made at the cost of permanent losses.

Meanwhile, wages continued to advance. The demands of the public and regulating authorities for expensive changes or improvements in service continued to increase. The managements of the eastern railways found their efforts to maintain a satisfactory ratio

¹ *I.C.C. Rep.*, XX, 279.

between earnings and investment unavailing; and in 1913 they again appealed to the Commission, this time for a 5 per cent increase in rates. The Commission now employed Mr. Brandeis as its own special counsel. The result of the proceeding was that a minority of the Commission favored granting the petition of the railways, while the majority, although holding that net earnings in eastern territory were inadequate, granted an advance of 5 per cent in the rates applying on less than one-half of the tonnage of the Central Freight Association lines, and suggested a number of other means by which the Commission believed the railways could adequately increase their net revenues.

There seems to be an impression that in this case Mr. Brandeis made attacks on the efficiency of the railways similar to those he made in the earlier cases, and that he convinced the Commission. In fact, he entirely changed his line of attack. He said almost nothing about "scientific management." His brief seemed to imply that the railways had not increased their efficiency as fast as some other concerns, such as gas plants, which, he argued, had made advances in wages while keeping down or reducing their rates. But his oral argument conceded that they had made extraordinary economies in handling freight. The main reasons why they had not secured satisfactory net earnings, he concluded, were that their passenger-service expenses had increased faster than their passenger earnings, and that they were rendering many special terminal services in connection with the handling of freight for which they were receiving inadequate or no compensation, and had also made rates on many commodities which were unremunerative.

These conclusions the Commission accepted. Now, obviously, there is a wide difference between these conclusions and the conclusion that the management and physical operation of the railways are inefficient.

This is the history of the discussion of railway efficiency in its relation to rates. It is a discussion which has had no considerable results, theoretical or practical. But the subject is one which it is desirable should be discussed if we can get it intelligently discussed. It is important to the public that all industrial operations shall be efficient. On our industrial efficiency depends our per-

manent prosperity. On it depends low costs of production, high wages, and relatively low prices at home, and success in winning markets abroad. How much the way any particular industry is managed affects the general prosperity depends on its magnitude. Because the railway industry is one of the largest, the way it is managed affects the prosperity of the public to a marked extent. Therefore the public has a special concern in the efficiency of railway operation, and it is desirable that it shall take an intelligent interest in it, for on public sentiment and railway regulation will depend in no small measure the way the railways will be managed in future. The subject of railway efficiency in its relation to an advance in freight rates, or to any other change in rates, suggests two lines of inquiry: First, as to whether the railways are efficiently operated, and, second, as to what weight should be given to the efficiency of their operation in regulating their charges.

Before we discuss whether any concern is efficiently operated, we should decide what we mean by efficiency. Some call the Post-Office Department a model of efficient management. But they refer only to the quality of its service. There are no adequate data regarding the economy of its management; and the inadequate data available indicate that it is not economically operated. On the other hand, when Mr. Brandeis and others have criticized the efficiency of the railways they have referred, not to the character of their service, but to the economy with which they render it.

In truth, the management of any business is not efficient if it renders good service or makes good products regardless of reasonable economy, or if it is run economically, regardless of the effect on its service or products. Efficient operation of a railway is the rendering as economically as practicable of such service as best furthers the public convenience and welfare. And in any line of business efficient operation consists in maintaining a proper balance between the quality of goods or service, and economy.

By what standard or standards shall we measure the efficiency of our railways? If we might measure it by the efforts made to introduce economies and improve the service we should say they are very efficiently managed. For to those in close touch with the railway business its most interesting and remarkable feature is the

incessant striving by the officers of all ranks to develop and introduce better methods, devices, and equipment. There is constant rivalry between different roads in the making of such improvements; and yet there is the freest interchange of information concerning the new methods and devices tried and the results obtained. Whether you follow the work of the motive power and car department, or the engineering and maintenance of way departments, or the transportation department, you find the same multifarious, zealous, energetic efforts. On some roads there is more zeal for efficiency in some directions than in others; there is more zeal for efficiency on some roads than on others; on some there is a marked absence of zeal for efficiency of any kind. But we are dealing with the situation as a whole, and probably the managements of no other class of concerns in this country, and of no other railway systems in the world, strive more intelligently and energetically to increase the efficiency of their workings than the managements of the railways of the United States. Consequently, our railways have been leaders in introducing many of the greatest improvements in transportation. They were the first to use the air brake, the automatic coupler, the automatic block system, the sleeping car, the steel car. They have led the world in increasing the size and capacity of cars and the tractive power of locomotives.

But, after all, the question is, not whether the managements of the railways have exerted themselves to make their operations efficient, but how well they have succeeded. We might try, as some have, to measure their efficiency by comparing the increases in wages and other unit costs which have occurred in the railway industry and in the widely dissimilar industries of agriculture and manufacturing, and the relative extents to which they have been offset by economies effected by improved methods and machinery. Such comparisons would show that within the last fifteen years there have been increases in wages and other costs in all these great industries, and that while these increases have been accompanied by advances in the prices of agricultural products and of most manufactured goods, they have not resulted in any advances in the average rates of the railways. So far as such evidence is pertinent it indicates that our railways have been managed more efficiently

than our farms and factories. But probably such comparisons are not of much value, except as they may tend to corroborate other more direct evidence. The differences between the industries of transportation, manufacturing, and agriculture are such that it is impossible to reduce to approximately comparable units either the means adopted in them to promote economy or the results obtained.

The businesses of public utilities, such as street railways, gas companies and electric light and power companies, are usually regarded as more analogous to that of railways, and, as already noted, Mr. Brandeis has intimated that some classes of public utilities have been more efficiently managed than the railways, because they have dealt with increases in wages and in costs of materials without increasing, and even while reducing, rates. But for several reasons such comparisons also are of doubtful value. We have pretty full data regarding the increases in wages and in costs of materials on the railways as a whole, but our data concerning the public utilities as a whole, or even any entire class of them, are extremely incomplete and inconclusive. Perhaps one might cite groups of public utilities which appear, from the available data, to have been more efficiently managed than the railways as a whole. But it might also be possible to select individual railways or groups of railways the data regarding which might indicate that they have been managed more efficiently not only than the railways as a whole, but than any group or class of public utilities. The questions to be answered concern the efficiency of our railways as a whole, and the relation of their efficiency to an advance in rates for them as a whole; and a comparison between a selected group of public utilities and all the railways, or between a selected group of public utilities and a selected group of railways, would throw no light on these matters.

Even though we had complete data regarding public utilities, any comparison between them and the railways would be likely to mislead; for there are certain fundamental differences between railways and public utilities which are often disregarded in discussions of public regulation of them. For example, each public utility is usually a monopoly, while each railway competes in service with numerous other railways. In the strife of competition,

especially for passenger business, each road must to a considerable extent sacrifice economy. Obviously, the management of a public utility having a monopoly should be more able to keep its expenses down to where theoretically they ought to be than can the management of a railway beset with the necessity of making expenditures to meet forms of competition which may actually grow more severe when traffic and earnings decline.

Again, the businesses of most public utilities commonly show steady increases each year. If there are decreases they are usually small and temporary. Their services or products are such that once the public has begun to use them it is hard to reduce its consumption of them. If people have begun to cook with gas, to take water furnished by waterworks, to employ electricity for lighting purposes, they must continue to use almost the same amounts of them in bad times as in good. On the other hand, the traffic of railways undergoes wide fluctuations. The demand for most commodities shipped as freight varies greatly in good times and bad times; and the supply of many commodities, such as agricultural products, also varies greatly. For these reasons, the managements of public utilities can estimate their future business, and what investments they can safely make and what expenses they can safely prepare to incur, with some accuracy. The railway, on the other hand, may have a big business this year which causes large additions to be made to its organization and its investment in facilities. Just when these readjustments are finished its traffic may decline heavily. Either a rapid increase or decrease of traffic causes expenses to become excessive in proportion to earnings. In periods of traffic congestion expenses inevitably increase excessively. In periods of light traffic and car surpluses, such as we have had most of the time since the great car shortages of 1906 and 1907, fixed charges and operating expenses become relatively excessive because organizations and investments cannot be reduced in proportion to the decline in business. These disparities between the fluctuations in the businesses of public utilities and of railways have been extraordinarily great during the last fifteen years.

For the foregoing and other reasons, fair and intelligent comparisons between public utilities and railways must make great

allowances for differences in conditions. After some study of the subject, I am convinced that if approximate allowances could be made for these differences it would not appear that any class of public utilities has made greater increases in efficiency than the railways.

There is another class of comparisons we can make. We can compare the conditions under which our railways operate and the results they obtain with the operating conditions and results of other railways. Here we should be comparing like things with like; and the conclusions reached might be fairer and more intelligent than those reached otherwise. Here also we meet great difficulties in the form of wide differences in conditions; but we can make approximate allowances for them.

Let us then attempt a brief comparison of data regarding the economy of operation of the railways of France, Germany, and the United States. The railways of France and Germany are selected because they are the most efficiently managed railways in Europe, excepting, perhaps, those of Great Britain; and the British railways do not compile statistics which can be used satisfactorily for comparative purposes.

The main requisite to economical transportation, whether by water or rail, is the handling of traffic in large units. Other things being equal, the more passengers or tons hauled per car or train the less is the capital and operating cost of hauling each passenger or ton one mile.

Passenger traffic in France is three times, and in Germany five times, as dense as here. The development of our passenger service has been greatly influenced by the fact that our people have never been divided into classes as have those of Europe; by the relatively great distances in this country, which make it necessary to furnish travelers comforts not needed where journeys are shorter; by our growing fondness for extravagance and luxury; and by the active competition in passenger service between our railways. These influences have prevented the division of the service into classes and have caused intense rivalry in providing a luxurious and much-duplicated through-passenger train service. It is these influences which probably explain why we have so many trains carrying

parlor, observation, and buffet smoking cars, valets, barbers, maids, stenographers, and so on—things unknown in Europe—and why we have such relatively small passenger train loads. At any rate, in France and Germany all but a small part of the travel is in day coaches, and the great bulk is in third- and fourth-class cars. Therefore the conditions there are in every way more favorable than here for securing large car and train loads. And so we find that while in this country the average number of passengers per train is 56, in France it is 65 and in Prussia-Hesse, 87. There can be little question that the railways of Germany and France handle their passenger traffic more economically in proportion than do those of the United States. But as population and passenger traffic have grown our railways have substantially increased their passenger train loads. There was almost no increase in passengers per train in France between 1900 and 1910; there was an increase in Prussia-Hesse of from 80 to 87, or only 8.7 per cent; while the increase in the United States was from 41 to 56, or 36.5 per cent.

In their freight service our railways handle a larger proportion of bulky commodities than those of France or Germany, they get longer average hauls, and the average density of freight traffic here is greater than in any other country except Germany. The conditions for getting large carloads and trainloads are, therefore, relatively favorable here. The statistics indicate that the managers of our railways have taken full advantage of these conditions. Their average freight carloads and trainloads exceed those of any other railways. Between 1900 and 1910 the average tons per train in France increased from 144 to 181, or 25.7 per cent. The average tons per train in Prussia-Hesse increased from 163 to 236, or 44.7 per cent. The average tons per train in the United States increased from 271 to 380, or 40.2 per cent; and up to 1913, there had been a further increase to 445 tons. These statistics show that our railways have developed to a higher degree than any others the art of handling freight in large units.

The main purpose in increasing trainloads is to reduce the number of men employed to handle a given traffic and thereby keep down labor costs; and in consequence of this and other improve-

ments in their physical plants, equipment, and operating methods our railways have very greatly increased the numbers of passenger miles and ton miles handled per employee. The statistics in Table I show what these increases have been since 1890.

TABLE I

YEAR	NO. RAILWAY EMPLOYEES	TONS CARRIED ONE MILE		PASSENGERS CARRIED ONE MILE	
		Total	Per Employee	Total	Per Employee
1890. . . .	749,301	76,207,047,298	101,704	11,847,785,617	15,812
1900. . . .	1,017,653	141,596,551,161	139,140	16,038,076,200	15,759
1910. . . .	1,699,420	255,016,910,451	150,061	32,338,406,329	19,029
1913. . . .	1,815,239	301,398,752,108	166,038	34,575,872,890	19,047

The number of passenger miles per employee increased 20.4 per cent between 1890 and 1913. The number of ton miles per employee increased 19 per cent between 1900 and 1913, and 63 per cent between 1890 and 1913.

Such data are evidences of efficient operation. But a railway might handle its passengers and freight in large trainloads, it might handle a large traffic per employee, and at the same time not be economically managed. Its capital might be wastefully invested, or skilful methods might not be used to keep down the cost of maintenance of way and structures or of equipment. The ultimate test of efficiency is whether, considering the conditions under which their business is carried on, railways actually do transport passengers and freight at low cost.

Among the most important factors to be given weight in analyzing the capital costs and operating expenses incurred in handling a given traffic are the average distances the traffic is moved, for the shorter the average hauls, the greater in proportion to the number of passenger miles and ton miles will be the terminal expenses. Now, hauls in this country are long. For example, the average journey of passengers in the United States is $33\frac{1}{2}$ miles; in Prussia-Hesse, only $14\frac{1}{2}$ miles; and in France, 21 miles; and the average haul per ton in this country is 138 miles, while in Prussia-Hesse it is only 68 miles, and in France about 82 miles. These differences *tend* to make the average cost of handling a given passenger mileage

or ton mileage substantially more in France and Germany than in the United States.

But there is another point of the greatest importance to be considered. The average compensation of a railway employee in France in 1908 was \$260 and is believed to be now somewhat over \$300. The average compensation on the Prussian-Hessian railways in 1910 was \$380 and on all the railways in the German Empire in 1911, \$392. The average compensation per employee on the railways of the United States in 1903 was \$577; and in 1911, \$724. How much greater in absolute amount and in proportion have been within recent years the increases in wages which our railways have had to meet than those which the railways of other countries have had to bear is perhaps illustrated by the comparative increases in wages on the railways of Germany and of the United States in the five years 1906 to 1911. Between these years the average annual compensation on the railways of Germany increased from \$338 to \$392, an advance of \$54 per employee, or 16 per cent. In the same period the average annual compensation on the railways of the United States increased from \$588 to \$724, an advance of \$136 per employee, or 23 per cent. And by 1913 the average compensation per employee in this country had increased to \$758, an advance within seven years of \$170, or 29 per cent. Of course, only the increases already referred to in the amount of traffic handled per employee, which have been caused almost entirely by improvements in plants and operating methods introduced by the managements, have made it possible for our railways to stand so long such increases in wages without increases in their rates.[†] Now, wages affect terminal as well as other expenses. They affect not only the amount which it costs to operate a mile of railway, but also the amount which must be spent to build and equip a mile of railway, and, therefore the amount of invested capital on which a return must be earned. These great differences between the wages paid in France, Germany, and the United States are surely at least an offset to the

[†] Meantime, of course, there have been heavy increases in other expenses. For example, between 1906 and 1913 taxes per mile increased 56 per cent, while net operating income per mile—in other words, the amount the railways had left after paying operating expenses and taxes—increased only 6½ per cent.

differences between the lengths of the average hauls; for there is no reason whatever for regarding the American railway employee as more efficient, on the average, than the German or French railway employee. About one-fourth of all our railway employees are negroes, Mexicans, Asiatics, and Southern Europeans.

Having in mind the foregoing facts, let us see how the average capital investments and operating expenses of moving a passenger one mile and a ton one mile on the railways of France, Germany, and the United States compared. The following statistics are given in Table II: number of passengers moved one mile per dollar of capitalization (or capital cost) in 1910 on the railways of Germany,

TABLE II

	Germany	France	United States
Ton miles per dollar of capital cost.....	8.6	3.8	18.4
Passenger miles per dollar of capital cost..	5.6	2.9	2.1
Ton miles per dollar of operating expenses	67.5	62.9	138.9
Passenger miles per dollar of operating expenses.....	44.3	47.5	15.9
Total traffic units per dollar of capital cost	14.2	6.7	20.5
Total traffic units per dollar of operating expenses.....	111.8	110.4	154.8

France, and the United States; number of passengers moved one mile per dollar of operating expenses; number of tons moved one mile per dollar of capital cost or capitalization; number of tons moved one mile per dollar of operating expenses; and the total units of both kinds of traffic handled per dollar of capitalization and operating expenses. The passenger miles were fewer in proportion to capitalization and expenses on the railways of the United States than on those of France or Germany. But the number of tons moved one mile per dollar of capitalization and per dollar of operating expenses was very much larger on the railways of the United States than on those of either Germany or France; and the number of total units of passenger and freight traffic handled per dollar of capitalization and per dollar of operating expenses was much the largest on the railways of the United States.

However, the public is affected by the results of railway investment and operation chiefly through the rates charged. How, then,

do the rates in France, Germany, and the United States compare? The average rate per passenger mile for each of these countries in the latest years for which statistics are available was, France, 1.08 cents; Germany, 9.1 mills; United States, 2 cents. But these average rates do not represent similar services. Those for France and Germany include the low rates made for third- and even fourth-class services; and our railways render no service so poor as the third-class services in both those countries and the fourth-class service in Germany. The average rates for first class in those countries are higher than our average rates. For example, the average first-class rate in Prussia, in 1910, was 2.87 cents, which is more than our average passenger rate, plus our average sleeping-car rate. The second-class rate in Prussia averages 1.5 cents per mile; and the rates given are rather below than above those usually charged in Europe for the only classes of services that can be reasonably compared with ours.

As to freight rates, the average per ton mile in France was 13 mills; in Germany, 13.7 mills; in the United States, 7.29 mills.

The facts certainly indicate that, on the whole, our railways have been efficiently managed. They show that, while they get relatively long hauls, they have to pay much higher wages than the railways of Europe. They show that, in spite of this, they have developed to a higher degree than any other railways the art of transporting freight cheaply; and cheap freight transportation is much more important than cheap passenger transportation. They show that our railways have had to make great advances in wages in recent years—advances greater than those made by the leading railways of Europe; and yet so successful have they been in effecting economies that they have maintained their solvency while rates were actually being reduced; for average rates are lower now than they were eight years ago before the extensive advances in wages mentioned were begun. Such facts would seem to indicate, not inefficient operation, but on the whole highly efficient operation, even though it may be shown that in some respects the managements have not measured up to satisfactory standards.

Mr. Brandeis concluded that the main reason why the fixed charges and operating expenses of our railways have been increas-

ing faster than their earnings is that their passenger service expenses have been growing out of proportion to their passenger earnings; and he cited much evidence in support of this view. Probably in the main Mr. Brandeis was right. But does this indicate inefficient management? Only upon the assumption that the railways ought to have effectively resisted the public demands, and the statutes requiring competition, which have been among the chief causes of the development of such an expensive passenger service. Great economies could be introduced in our passenger service; but first, public opinion, the laws, and government officials would have to let the railways make the necessary reductions in the luxuriousness of their train service and the agreements, now illegal, prerequisite to reductions in the number of their passenger trains.

Suppose it be conceded that, on the whole, our railways are managed with reasonable prudence and efficiency. What bearing has this on the question of rates? As a matter of public policy, rates as a whole should be such as to enable the railway companies, under efficient management, to secure enough capital to cause a steady improvement in railway service and adequate increases in railway facilities. On this principle, if the management of the railways is, on the whole, reasonably efficient, and the net earnings are not sufficient to attract enough capital into the business, it would follow that rates should be advanced. But what rates, passenger or freight? My own belief is that the two classes of rates should be so adjusted that each branch of the service will contribute as nearly as may be practicable its proportionate share toward fixed charges and expenses; but that is a question of policy regarding which there is room for differences of opinion.

When we have determined what are reasonable net earnings; when we have determined whether the railways as a whole are managed with reasonable efficiency, we are confronted with a new difficulty. This is that our railways are really not a single system, but many systems; that, for competitive reasons, the passenger and freight rates on all railways in the same territory must be substantially the same; and that no matter what rates we apply the net returns of the various companies will vary widely. Some persons protest against the rates being made high enough to yield a fair

return on either the capitalization, capital investment, or valuation of the weaker lines, because this will enable the relatively strong lines to earn large profits. On the other hand, some persons protest against the rates being made such as to restrict the stronger lines to the lowest return that would be adequate for their needs, because such a policy would prevent the weak roads from earning any profits, and would bankrupt a majority of the railways of the country.

There would seem to be only one fair and rational answer to all this. We must consider and deal with the situation as a whole. The reasons for the differences between the net returns earned by railways are various, and are similar to the reasons for the differences between the material successes attained by different men. In every territory there are old roads which, because of their prior construction, enjoy advantages in respect of the location of their terminals, and of their connections with large and important industries, which cannot be taken from them. In other cases there are roads whose engineers, in surveying and constructing them, have profited by mistakes made by the builders of the older lines to secure grades and curves which render operation less expensive. In other cases there are roads which in a general way are similarly situated physically, but in the efficiency of whose operation there are wide differences. The action of government can no more abolish the advantages which some railways have over others than it can abolish the differences between the inborn and acquired qualities of individuals. And it ought not to try to. All that government should do for individuals is to try to secure for them equality of opportunity; and that is all it should do for railways.

Now, when the government adopts the policy of so regulating the rates of all the railways in a territory or in the country as to enable them, as a whole, to earn fair average net profits, this is what it will do. For under such a policy railways which are managed with less than average prudence and efficiency will earn comparatively small net returns; those which are managed with ordinary prudence and efficiency will earn ordinary commercial profits; and those which are managed with more than ordinary prudence and intelligence will secure large, and perhaps in some cases very large,

net returns; and, while it will never be possible under this policy for all the roads to obtain, except perhaps temporarily, more than a fair average profit, it will always be possible for any individual railway, by increasing the efficiency of its management, to increase its profits. What more effective means could be used to attract into the railway business adequate capital, and at the same time so to stimulate the managements as to secure the greatest practicable efficiency?

It will be asked, on what basis should we make our computations in order to ascertain whether a fair average profit is being earned. Should our basis be physical valuation, or property investment, or capitalization? That, in my opinion, is purely a question of public expediency. If the evidence and expert opinion show that on the whole the railways are being managed with reasonable prudence and efficiency, and that nevertheless their net earnings are not sufficient to raise adequate capital for their own good or that of the public, then, regardless of all mere theories as to the character of the relation of the railways to the public, or as to what is a "fair return" for them, a case has been made out for the public expediency of causing increases in their net earnings either by advances in their rates, by the imposition of special charges for special services, or by some other equitable and effective means.

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